

ARIZONA DEPARTMENT OF TRANSPORTATION VALUE ANALYSIS PROGRAM

TEAM MEMBER PREPARATION GUIDE

INTRODUCTION

Congratulations! You've been selected to serve on a Value Analysis team. We are sure that you will find this experience to be both rewarding and enjoyable. It will also be hard work. You will spend several days working intensively and creatively with a group of your peers. Regardless of the results of your particular study, you will gain a better understanding of the perspectives of your teammates, and of the complexities of highway design and development.

PREPARATION

Value studies normally require three to four consecutive days. Please make every effort to clear your calendar and delegate as needed, so that you will be able to concentrate fully on your study. This will not only enhance your experience, but will also help your teammates. Should you have a problem in this regard, please contact us as soon as possible.

You will receive a brief Study Plan in advance of the study, either at the same time you receive this Guide, or soon thereafter. The Study Plan contains background, scope and logistical information about your study. Sometimes it will include one or more attachments which will provide a brief description of your study subject. Often these are excerpts from documents which will be available during the study. When reading these excerpts, you might want to note which documents you want to review more thoroughly during the first phase of the study. It is not intended for you to spend more than an hour or two preparing for the study.

You are encouraged to bring appropriate resources with you to the study. Please keep in mind, however, that value analysis is by design an intensive, time- constrained procedure. Therefore, bring only those resources with which you are very familiar, and can refer to quickly and accurately. Phone numbers of sales engineers and other contact persons could also be helpful. Bring your own calculator, computer, notepaper, pencils, etc.

If questions occur to you prior to the study, please contact the Value Analysis Section for clarification, not the Project Manager or Design Team.

Some things to consider regarding teams:

- A team can't necessarily be created merely by bringing 5-9 people together in the same room. You need to make it happen!
- Check your "agendas" at the door! But bring your respect for and trust of your teammates.
- Approach your study with a positive attitude!
- Teams sometimes tend to slip into "war story" sessions during a study. Up to a point, these may help with team building and provide useful information, but they also eat up a lot of valuable time!
- The "Abilene Paradox" which describes a situation in which everyone on a team agrees to something that no one really supports. They each assume that the others are in favor, so they go along. More typically, you will observe a similar situation in which one or two team members support an idea, and the rest, who don't, go along anyway for various reasons. Don't go to Abilene! If you can't "buy in" to what is proposed, it is your responsibility to speak up. It is also your responsibility, of course, to help the team achieve true consensus. You may have to compromise, but don't do so until you have aired your views.
- Value Analysis is not about quotas, peer review, design review, etc. Your role as a team is to "search for the second right answer", not to find fault.
- Work hard and have a good time! (If you don't think you can do both at the same time - please think again!)
- Most importantly, trust in, and follow the methodology. It has been successfully used around the world for 50 years!

VALUE TEAM LEADER

The Value Team Leader is responsible for the overall conduct of the study. The Leader will either be a member of the Value Analysis staff, or be selected by them. Team Leaders receive significant training in V.A. prior to service.

Experienced consultant team leaders may be utilized to lead some of the more complex studies. They will be “Certified Value Specialists” who do this work as a vocation. Your role as a team member will be the same, regardless of who serves as leader.

Because of the intensive and structured nature of the value method, good teamwork and “group dynamics” are essential parts of a successful study. There will be plenty of opportunity for everyone to contribute during each phase, but the Team Leader may have to “move things along”, or spread the conversation around, in order to be sure everyone participates and the goals of the study are met. Please give your Team Leader your maximum cooperation in this regard.

THE STUDY

Value studies consist of five phases:

1. Identification of Potential.
2. Analysis of Functions.
3. Generation of Ideas.
4. Evaluation of Ideas.
5. Development of Recommendations.

The proportion of the total study time which is spent on each phase will vary, but each will be a distinct part of the total effort.

Identification of Potential - During this phase, the team will identify those elements of the subject which are most likely to yield value improvement. You will use various techniques such as Cost Modeling, Function Analysis System Technique (FAST) Diagramming, or Failure (Problem) Analysis, in combination with the team’s professional judgment to make these decisions. Once you have selected those elements with the greatest potential, you will concentrate exclusively on them for the remainder of the study.

Analysis of Functions - Function analysis is really the “heart and soul” of value analysis. During this phase you will analyze each selected

element in order to determine its basic and secondary functions. Your Team Leader will conduct a brief overview of this process before you begin. The most important thing to remember is that function analysis is a means to an end, not the end itself. It is a process which allows a multi-discipline team to achieve consensus as to the needed functions, in preparation for generating ideas about how best to provide those functions. There really are no absolutely correct function analysis solutions - getting there is what's important!

An important tool in function analysis is the FAST diagram. Think of this as a critical path of functions, rather than activities. It is a logic diagram, which helps the team identify the basic functions and their related supporting functions of the project.

Idea Generation - This phase is more typically known as “brainstorming”. Once you understand the functions of your subject, you must think creatively, as an individual, and as a team, to generate ideas. There are several “rules” for brainstorming:

- Don't brainstorm until you reach this phase! If an idea pops into your head during earlier phases, write it down and bring it up later. Early discussion of solutions tends to inhibit a thorough understanding of the subject.
- When you do reach this phase - don't hold back! No idea is too wacky during brainstorming. Don't prejudge or dismiss anything. Write them all down! A way-out idea, when focused on by a team, may generate a very feasible idea.
- Don't just sit there waiting for ideas to surface. Think hard! Concentrate on the functions, not the existing solutions. Concentrate on the other ideas and try to build on them. Someone has likened this to pearl diving - the more oysters you collect, the more likely you are to find a pearl.

Evaluation of Ideas - During this phase, you will reduce your list of ideas to those most feasible, by analyzing advantages and disadvantages. In some cases, you may compare alternatives with a “matrix” approach,

and use life-cycle cost techniques. Compared to the more “free-wheeling” phases which precede it, this phase may seem somewhat tedious, but it is no less important to a successful study!

Development of Recommendations - The Development phase will vary significantly from study to study. Basically, it involves the advancement of the team’s ideas to the level of recommendations which can be presented, and to some extent, defended. This work can include the preparation of sketches, calculations, graphics and reports, as well as making contacts to obtain further information. Your team will be responsible for determining the extent of the Development phase for your study, based on the nature of your ideas and recommendations, and on time constraints. Although the entire team will contribute to a written report, the report will be completed and distributed by the Value Analysis Section. In most cases an oral presentation to the design team and management will conclude the study.

The Value Analysis Section has several books and articles about value analysis. If you would like more information about the process, please do not hesitate to call Value Analysis Section at (602) 712-8544.

AFTER THE STUDY

NOTE: TO BE AMENDED WHEN PROCEDURE AGREED UPON

Once you complete your study your work is done. The Value Program includes a formal review process, and your recommendations will receive careful consideration. The implementation of accepted recommendations will be monitored by the Value Analysis Section.

CONCLUSION

This document is intended to assist you in preparing for your participation in a value study. It is intentionally brief. Please contact the Value Analysis Section with any questions or suggestions. At the conclusion of the study please provide any suggestions that will help us improve the Value Analysis program.

Thank you!!